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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/767,392
Filing Date: January 28, 2004
Appellant(s): PUSHPARAJ, VINODH FRANCIS

Timothy E. Murphy
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7-28-2009 appealing from the Office action mailed 2-3-2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,618,716 B1	Horvitz	9-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz (US 6618716 B1).

Horvitz teaches the predictive intelligent routing of calls to users using a probability determination (Figure 7) for receiving alerts from multiple devices and forwarding the alerts to the determined user device. Horvitz teaches a plurality of contact devices for the user which includes a computer, cell phone and a pager (column 13, lines 35-46) and a plurality of user locations --office versus offsite location (column 1, lines 56-58). Further, Horvitz refers to the probability as one probability or many probabilities (column 6, lines 36-40).

Horvitz does not teach the "probability of the user answering an incoming call intended for the user at each of a plurality of contact devices." However, Horvitz does teach to use a probability distribution such as a Bayesian network model to infer the probabilities of alternate states of attention, the availability probability, or the probability over the period of time until the user becomes available for reviewing alerts at minimal cost" in addition to a singular "user-availability probability" which is the probability that the user is currently in a state where he or she is either actively interested in reviewing alerts or becomes available to receive a notification with zero or minimal cost (column 2, lines 25-46). As shown in Figure 3, the probability 300 is affected by the Profile of Prior Knowledge 302 which includes a user profile directly specified by the user or assessed from the user, or of knowledge that has been learned by observing user's

responses to previous alerts, wherein the probability increases or decreases based on whether the user has been receptive to alerts in the past (column 7, lines 16-26). The types of alerts that have been made to the user in the past is also recorded in the previous alerts history 608 (column 9, lines 47-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a probability distribution function based on the probability of the user answering an incoming call intended for the user at each of a plurality of contact devices for the reason that a user answering an incoming call at a particular device is clearly an observable event since Horvitz suggests observing user's responses to previous alerts where the type of alerts are known and knowledge learned from the observation is used to determine the probability distribution.

With respect to claim 1, "preference from a user to associate at least one contact device and at least one time slot" and claim 2, the "probability data comprising a list of associations between contact devices and time slots," it would have been obvious in Horvitz since Horvitz teaches more than just the single availability probability. A skilled artisan would have been motivated to include the association between contact devices and time slots for the reason that Horvitz includes a profile of prior knowledge which includes a user profile directly specified by the user, wherein such a user would have obviously specified that a contact device be a cell phone in the time slot when they know that they will be away from their office (i.e. lunch hour) and the office telephone when they are in their office since the cost of the cell phone is a factor in determining the type of alert (column 13, lines 35).

With respect to claims 3 and 8, it would have been obvious for Horvitz to provide the user the ability to select a mode for determining which devices they will be contact on as a matter of choice in design since Horvitz teaches that the Profile of Prior Knowledge 302 affects the probability (Figure 3 and column 7, lines 16-26), but not the degree. A skilled artisan would

have been motivated to clearly specify to use only the user profile directly specified by the user (i.e. user preferences) when the user only wants a specific alert such as the user specifying the cell phone as the only contact device when they are on extended leave away from their office and to use the probability distribution function alerts when the multiple devices are available. With respect to claim 9, the weighting factor is an obvious choice in design based on the effect of the Profile of Prior Knowledge 302 on the probability distribution function since other factors such as Bayesian Network 320 and Contextual Events 304 are considered in the probability determination as shown in Figure 3.

With respect to claim 6, Horvitz clearly teaches that the success or failure of the contact signal affects the probability distribution function (column 7, lines 16-26).

With respect to claim 10, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit the contact signal to a plurality of contact devices since a skilled artisan would have been motivated to designate a plurality of contact devices in their user profile for highly critical messages (i.e. an expectant father may designate all their devices to receive any alerts from the expecting mother). Horvitz clearly teaches that the user profile is directly specified by the user (column 7, lines 18-19).

With respect to claim 12, the phone call, fax signal, an instant message or a video call alerts is obvious for the reason that Horvitz teaches that the alerts can be any manner that is audio and/or visual (column 6, lines 56-58), wherein a phone call is well known as audio, a fax signal and instant message are well known as visual, and a video call is well known as audio/visual.

With respect to claim 13, it would have been obvious to determine what contact device the user answers the incoming call since Horvitz teaches that the profile of prior knowledge 302 includes knowledge that has been learned by observing user's response to previous alerts

(column 7, lines 20-21) and the previous alerts history 608 indicates the types of alerts that have been made to the user in the past, wherein a skilled artisan would have been motivated to observe that a user responded to a previous alert to a particular type of device.

Horvitz does not teach the use of a failure threshold or success threshold for updating the probability data. In Horvitz, if the user has been receptive to alerts in the past, this may increase the probability, while if the user has not been receptive to alerts in the past, this may decrease the probability (column 7, lines 23-26). With respect to the failure threshold (claims 15 and 23), it would have been obvious for the system to query the user to change its specified user profile (column 7, lines 16-21), resulting in a best mode of prediction, where the user has not been receptive to alerts in the past such that its probability of contact is at a threshold of zero or near zero. The reason for this is that the currently selected user profile may result in the user being completely unreceptive to alerts, which would have required a change in the user profile.

With respect to the success threshold (claims 16 and 24), it would have been obvious to order a probability for each contact device based upon past successes since Horvitz teaches to increase probability when the user has been receptive to alerts in the past, wherein a single reception constitutes a success threshold.

With respect to sending multiple contact signals to a first set of contact devices, Horvitz teaches that the user may be in different locations (office or offsite location in column 1, lines 56-60). It would have been obvious for the user selected profile to indicate multiple contact devices based on the devices location (a set of devices at the office and a similar set of devices at the offsite location). The motivation for selecting multiple contact devices is that the message may be highly critical (column 13, lines 49-65) and the user may want multiple contact devices to provide an alert in order to not miss the critical message. The user selected contact devices

are provided in the user profile which is used in the probability of success determination (column 7, lines 16-26).

With respect to the claims below, references to the prior art appear in parenthesis.

Claims

1. *A network device* **(Horvitz, Figure 2)**, *comprising:*

a user interface configured to receive a preference from a user to associate at least one contact device and at least one period of time **(Obvious since the user can specify a user profile (column 7, lines 16-21), wherein a skilled artisan would have been motivated to specify their cell phone during their lunch hour since they are away from their office)**;

a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices **(Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26)**;

a first port to receive the incoming call intended for the user **(Receive Alert 700 in Figure 7)**;

a second port to send contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability **(Alert User 704 based on the probability in Figure 7, wherein the probability is based on the user preference in the Profile of Prior Knowledge 302 in Figure 3)**;

a processor **(Processing Unit 21 in Figure 1)** *to:*

determine connection information based upon the contact device at which the user responds to the contact signal **(Obvious since Horvitz observes user's response to previous alerts which includes receptive/success or not receptive/failure in column 7, lines 16-26)**; *and*

transmit the connection information to the predictor to allow the predictor to update probability data associated with the user **(Updated probability data based on whether the user was receptive or not receptive to the alert in column 7, lines 16-26)**.

2. The network device of claim 1, the device further comprising a memory to store the probability data, the probability data comprising a list of associations between contact devices and time slots **(It is inherent in Horvitz for a memory to store probability data since real-time information is used to update the probability distribution (column 8, lines 45-49) such that the prior probability must be stored and provided to the update determination. The probability data based on associations between contact devices and time slots are obvious for the reason that the user can select a user profile as explained above)**.

3. The network device of claim 1, the user interface further configured to receive a selection from the user to select at least one of a predictive mode, a combination mode, and a preference mode, wherein:

In the predictive mode, the contact signals are sent to the at least one of the plurality of contact devices based on the probability **(Obvious choice in design since the probability is based on many factors besides the user preference in the Profile of Prior Knowledge 302 which affects the probability determination (column 7, lines 16-26), wherein a skilled artisan would have been motivated to ignore the user preference if the user has not specified any preferences)**;

In the preference mode, the contact signals are sent to the at least one of the plurality of contact devices based on the preference **(Obvious choice in design since a skilled artisan**

would have been motivated to specify only a particular contact device as a user preference); *and*

In the combination mode, the contact signals are sent to the at least one of the plurality of contact devices based on the preference and the probability **(Horvitz teaches the combination mode wherein the user preference in the Profile of Prior Knowledge 302 affects the probability determination (column 7, lines 16-26))**.

4. The network device of claim 1, wherein the plurality of contact devices are selected from the group consisting of: pagers, cellular phones, landline phones, computers, personal digital assistants, and mobile computing devices **(Obvious since these known contact devices are similar to the cell phone and pager examples in column 2, lines 62-65)**.

5. The network device of claim 1, the incoming call further comprising: a phone call, a fax signal, an instant message, and a video call **(Obvious since Horvitz teaches that the external devices providing incoming alerts are not limited to the cited examples of computers and telephones in column 9, lines 5-13)**.

6. A method of contacting a user, comprising:

receiving an incoming call for a user at a first device **(Receive Alert 700 in Figure 7)**;

accessing user preferences for contacting the user **(User direct specified profile, column 7, lines 16-21)**;

predicting a probability of the user answering the incoming call from at least one contact device based upon the user preferences and probability data **(Obvious since Attentional**

Status Module 204 in Figure 2 generates probability distribution based on user preference in the Profile of Prior Knowledge in column 7, lines 4-26);

transmitting a contact signal to at least one device based on at least one of the user preferences and the probability **(Alert User 704 in Figure 7 based on probability 702)**;

determining the success or failure of the contact signal by determining whether the user answered the incoming call **(Observing user's response to previous alerts which includes receptive/success or not receptive/failure in column 7, lines 16-26)**; *and*

updating the probability data based on the success or failure of the contact signal **(Updated probability data based on whether the user was receptive or not receptive to the alert in column 7, lines 16-26)**.

7. The method of claim 6, receiving the incoming call further comprising receiving one of the group consisting of: a phone call, a fax signal, an instant message and a video call **(Obvious since Horvitz teaches that the external devices providing incoming alerts are not limited to the cited examples of computers and telephones in column 9, lines 5-13)**.

8. The method of claim 6, accessing user preferences further comprising accessing an indicator specifying at least one of a predictive mode, a combination mode, and a preference mode **(Obvious choice in design since the probability is based on many factors besides the user preference in the Profile of Prior Knowledge 302 which affects the probability determination (column 7, lines 16-26), wherein a skilled artisan would have been motivated to designate the weight of the user preference such as no weight if**

nothing is specified for predictive mode and only user preference if a particular alert is desired).

9. The method of claim 8, accessing user preferences further comprising accessing the indicator for a combination mode and transmitting the contact signals further comprising determining the at least one device by applying a weighting factor based on the user preferences to the probability **(User direct specified profile is obviously weighted since it is only one of many factors in determining the probability in Figure 3 and column 7, lines 16-21)**.

10. The method of claim 6, transmitting the contact signal further comprising transmitting the contact signal to a plurality of contact devices based on at least one of the user preferences and the probability **(Obvious since a skilled artisan would have been motivated to designate a plurality of contact devices in their user profile for highly critical messages)**.

11. The method of claim 6, predicting a probability further comprising applying Bayes's Theorem to the contact devices **(Bayesian module, column 8, lines 24-49)**.

12. The method of claim 6, transmitting a contact signal further comprising transmitting one of the group consisting of: a phone call, a fax signal, an instant message or a video call **(Obvious since Horvitz teaches that the contact signal can be audio and/or visual in column 6, lines 55-57)**.

13. The method of claim 6, determining the success or failure further

comprising determining at what contact device the user answers the incoming call **(Obvious since Horvitz observes the user's responses to previous alerts in column 7, lines 23-26)**.

14. The method of claim 13, updating the probability data further comprising raising the probability of the contact device at which the user answers the incoming call **(Receptive to alerts raises the probability of a device, column 7, lines 23-26)**.

15. The method of claim 6, updating the probability data further comprising:

determining that a success rate is below a failure threshold after a predetermined period of time **(Probability is decreased if the user has not been receptive to alerts in the past, column 7, lines 23-26)***; and*

querying the user to select a broadcast mode, select a probability mode, or update the user preferences **(It would have been obvious to query the user to update its user profile to a best mode of prediction where the currently selected user profile has resulted in zero or near zero reception of alerts).**

16. The method of claim 6, updating the probability data further comprising:

determining that a success rate is above a success threshold **(Probability is increased for successful reception of alerts in the past, column 7, lines 23-26)***; and*

determining a probability for each of a plurality of contact devices based upon past successes **(It would have been obvious to order the contact device based upon past successes since Horvitz teaches to update the probability based on successful reception or not, wherein the probability in Horvitz constitutes a plurality of probabilities (column 6, lines 30-58))**.

17. The method of claim 6, transmitting a contact signal further comprising:

determining a first set of contact devices having a probability of success within a predetermined range **(Probability data is determined base on user specified profile, wherein alerts are sent to the high probability devices of the user, column 7, lines 16-26)***; and*

sending multiple contact signals to contact devices in the first set in parallel **(It would have been obvious to specify a set of devices based on locations such as at an office or offsite where the message is highly critical and the user wants multiple device alerts so as to not miss the alert)** *; and*

if no success occurs, determining a next set of contact devices having a probability of success within a next range **(It would have been obvious for a user to specify that if the critical alert is unsuccessful at a plurality of devices at an office, the plurality of devices at an offsite should be tried in order for the user to receive the critical message)**.

18. The method of claim 17, the method further comprising repeating the determining and sending processes until a success occurs **(It would have been obvious to keep trying to provide a highly critical message to a user)**.

19. The method of claim 17, the method further comprising altering at least one of the predetermined ranges and the next range depending upon successes **(Horvitz teaches to update the probability based on success or failure, column 7, lines 23-26)**.

20. A network device, comprising:

a means for receiving a preference from a user associating at least one contact device with at least one time slot **(Obvious since the user can specify a user profile (column 7, lines 16-21), wherein a skilled artisan would have been motivated to specify their cell phone during their lunch hour since they are away from their office)**;

a means for predicting a probability of the user answering an incoming call intended for the user at each of a plurality contact devices **(Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26)**;

a means for receiving the incoming call intended for the user **(Receive Alert 700 in Figure 7)**;

a means for sending contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability **(Alert User 704 based on the probability in Figure 7, wherein the probability is based on the user preference in the Profile of Prior Knowledge 302 in Figure 3)**;

a means for:

determining connection information based upon the contact device at which the user responds to the contact signal **(Obvious since Horvitz observes user's response to previous alerts which includes receptive/success or not receptive/failure in column 7, lines 16-26)**; *and*

transmitting the connection information to the predictor to allow the predictor to update probability data associated with the user **(Updated probability data based on whether the user was receptive or not receptive to the alert in column 7, lines 16-26)**.

21. The network device of claim 20, the device further comprising a means for

storing the probability data **(It is inherent in Horvitz for a memory to store probability data since real-time information is used to update the probability distribution (column 8, lines 45-49) such that the prior probability must be stored and provided to the update determination)**.

22. *An computer-readable medium containing computer-executable instructions that, when executed, cause the computer to:*

receive an incoming call for a user at a first device **(Receive Alert 700 in Figure 7)***;*

access user preferences for contacting the user **(User direct specified profile, column 7, lines 16-21)***;*

predict a probability of the user answering the incoming call from at least one contact device based upon the user preferences and probability data **(Obvious since Attentional Status Module 204 in Figure 2 generates probability distribution based on user preference in the Profile of Prior Knowledge in column 7, lines 4-26)***;*

transmit a contact signal to at least one device based on at least one of the user preferences and the probability **(Alert User 704 in Figure 7 based on probability 702)***;*

determine the success or failure of the contact signal by determining whether the user answered the incoming call **(Observing user's response to previous alerts which includes receptive/success or not receptive/failure in column 7, lines 16-26)***; and*

update the probability data based on the success or failure of the contact signal **(Updated probability data based on whether the user was receptive or not receptive to the alert in column 7, lines 16-26).**

23. The medium of claim 22, the code causing the computer to update the probability data further causing the machine to:

determine that a success rate is below a failure threshold after a predetermined period of time **(Probability is decreased if the user has not been receptive to alerts in the past, column 7, lines 23-26)**; *and*

query the user to select a broadcast mode, select a probability mode or update the user preferences **(It would have been obvious to query the user to update its user profile to a best mode of prediction where the currently selected user profile has resulted in zero or near zero reception of alerts)**.

24. The medium of claim 22, the code causing the computer to update the probability data further causing the machine to:

determining that a success rate is above a success threshold **(Probability is increased for successful reception of alerts in the past, column 7, lines 23-26)**; *and*

determining a probability for each of a plurality of contact devices based upon past successes **(It would have been obvious to order the contact device based upon past successes since Horvitz teaches to update the probability based on successful reception or not, wherein the probability in Horvitz constitutes a plurality of probabilities (column 6, lines 30-58))**.

25. The medium of claim 22, the code causing the computer to update the probability data further causing the machine to transmit a contact signal further comprising:

determine a first set of contact devices having a probability of success within a predetermined range **(Probability data is determined base on user specified profile, wherein alerts are sent to the high probability devices of the user, column 7, lines 16-26)**;

send multiple contact signals to contact devices in the first set in parallel **(It would have been obvious to specify a set of devices based on locations such as at an office or offsite where the message is highly critical and the user wants multiple device alerts so as to not miss the alert)**; *and*

if no success occurs, determine a next set of contact devices having a probability of success within a next range **(It would have been obvious for a user to specify that if the critical alert is unsuccessful at a plurality of devices at an office, the plurality of devices at an offsite should be tried in order for the user to receive the critical message)**.

26. A method of contacting a user, comprising:

receiving an incoming call for a first user from a second user **(Receive Alert 700 in Figure 7)**;

accessing a first probability of the first user answering the incoming call on a first contact device **(Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26)**;

transmitting the incoming call to the first contact device based on the first probability **(Alert User 704 in Figure 7 based on probability 702)**;

determining the success or failure of the transmitting by determining whether the first user answered the incoming call at the first device **(Observing user's response to previous alerts which includes receptive/success or not receptive/failure in column 7, lines 16-26)**;

updating probability data based on the success or failure of the transmitting **(Updated probability data based on whether the user was receptive or not receptive to the alert in column 7, lines 16-26)***; and*

when a failure is determined **(Obvious for a user preference to try multiple contact devices for the reason that the user desires to receive highly critical alerts)***:*

accessing a second probability of the first user answering the incoming call on a second contact device from the plurality of contact devices **(Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26)***; and*

transmitting the incoming call to the second contact device based on the second probability **(Alert User 704 in Figure 7 based on probability 702)**.

(10) Response to Argument

The Examiner notes that there appears to be a disagreement on how Horvitz's system works, which if resolved in Appellant's favor would obviate the Examiner's obviousness rejection. The Appellant's position appears to be that there is only one contact device which is the computer--"[i]f the decision is made to send the alert, it will always be sent to the same place, the computer the user is working on" (Appeal Brief, page 7, lines 10-11, citing Horvitz, column 8, lines 15-17). The Examiner's position is that there are additional contact devices, which includes a pager or cell phone for when the user is in a meeting and not around their desktop computer (Horvitz, column 13, lines 35-46).

(A) Claims 1, 4, 5 and 20.

Appellant argues in the Appeal Brief that the limitation "a user interface configured to receive a preference from a user to associate at least one contact device and at least one time

slot" would not have been obvious because "the system of Horvitz does not make a probability determination on where to send an alert; it makes a determination on whether to send the alert at all" (page 7, lines 3-4). The Examiner respectfully disagrees with Appellant's characterization of Horvitz's system. Horvitz explicitly teaches that "*[t]he notification decision-making module makes decisions about how, if, and when to alert the user about the information and alerts received by the peripheral information notification and alerts module, based on the probabilities generated by the attentional status module about the likelihood of alternate states of attention*" (column 2, lines 51-57). Thus, the determination of whether to send the alert at all corresponds to the "if" determination in the notification decision-making module. Horvitz further includes a "how and when" determination, wherein "how" includes "*the manner by which the user is alerted--for example, in an audio or visual manner, or on a mobile device such as a cell phone or a pager*" (column 2, lines 62-65) and "when" includes using an online calendar to decide whether to interrupt a meeting or wait for the meeting to end (column 13, lines 35-43). Horvitz further teaches that "*how an alert should be made is dependent on user preference as to the underlying information of an alert (for example, electronic mail, versus a telephone alert, etc.), and also desirably on the priority of the alert*" (column 9, lines 54-58). It is the combination of features in Horvitz--a plurality of contact devices (desktop computer, pager, cell phone), online calendar, and user preferences, that would have motivated a skilled artisan to associate at least one contact device and at least one time slot for the reason that the user may be expecting a high priority message and would have preferred to be interrupted by a pager alert during a scheduled meeting.

Appellant further argues that "there is no reason for the system of Horvitz to calculate a probability for each of a plurality of contact devices when the system already knows where the user is located, it is just determining whether the user wants to be disturbed or not" (Appeal

Brief, page 9, lines 2-4). Again, this argument assumes that there is only one contact device in Horvitz and one location--the desktop computer. There are a plurality of contact devices which includes a desktop computer, pager and cell phone (column 13, lines 25-46) and a plurality of locations which includes in office, out of office and travel (column 8, lines 28-33). Further, Horvitz teaches that the probability function is affected by the user's responses to previous alerts, wherein the user being receptive to alerts in the past increases the probability and the user not being receptive to alerts in the past may decrease the probability (column 7, lines 16-26). Thus, it would have been obvious to predict a probability of the user answering an incoming call at each of a plurality of contact devices for the reason that the user may be more or less receptive to alerts based on the particular contact device at the particular location which would have affected the probability function. For example, Horvitz determines whether to send the alert via a cell phone or a pager (column 13, lines 25-43), wherein it would have been obvious for a skilled artisan to observe that the user is less receptive to a cell phone alert (low probability), than a pager alert during meetings (high probability).

(B) Claim 2

Appellant argues that "Horvitz does not teach a memory to store probability data comprising a list of associated between contact devices and time slots" (Appeal Brief, page 10, lines 3-5). Again, this argument assumes that there is only one contact device in Horvitz. Horvitz must decide which contact device (desktop computer, cell phone or pager) to use during a particular time slot such as a meeting (column 13, lines 35-46). The Examiner's inherency statement is with regards to the probability data generated in Horvitz (column 7, lines 16-26) which must necessarily be stored since it is updated in real-time (column 8, lines 45-49).

(C) Claim 3

Appellant argues that "Horvitz does not teach or suggest any modes of operation (Appeal Brief, page 11, lines 4-5). This argument appears to be based on Appellant's assumption that there is only one contact device in Horvitz. There are a plurality of contact devices in Horvitz. Further, the user can directly specify their profile which is used to generate the probability function in contacting the user (column 7, lines 16-20), wherein how an alert should be made is dependent on user preference (column 9, lines 54-55). Horvitz uses the combination mode of the user specified profile and probability data in contacting the user (column 7, lines 16-26). With regards to a preference, it would have been an obvious choice in design to provide the user the option to select no preference (predictive mode with only probability data), preference mode (preference only where a user has an absolute preference such as only using a pager during meetings), or combination mode (Horvitz teaches using both preference and probability) for the reason that a preference would have ranged from no preference to an absolute preference only.

(D) Claims 6, 7, 11 and 22

Appellant argues that "Horvitz does not teach predicting a probability of a user answering an incoming call from at least one contact device" (Appeal Brief, page 12, lines 14-16). Again, this argument assumes that there is only one contact device--the computer. However, Horvitz teaches that the notification can be rendered via the cell phone when the user is not at the desktop computer (column 13, lines 35-46) and the user answering the alert in the past increases the current probability of answering (column 7, lines 21-26).

(E) Claim 8

Appellant argues that "there is nothing in Horvitz that teaches or suggests that it can operate in anything other than a combination mode (using a user specified profile to calculate the probability)" (Appeal Brief, page 13, lines 22-24). The Examiner's position is that

preferences can range from no preference to an absolute preference only, and thus, it would have been obvious as a design choice to present the user the option of indicating no preference (predictive mode), combination mode (Horvitz's preference and probability system), or preference mode (user only preference).

(F) Claim 9

Appellant argues that "just because Horvitz teaches that its probability is based on many factors, does not mean that it is obvious to apply weights to each of the factors, or more specifically, to the user preference factor" (Appeal Brief, page 14, lines 7-9). The Examiner's position is that since the user preference is only one part of the probability determination (column 7, lines 16-26), then it would have been obvious to apply weights to the user preference since the user preference does not supersede the other factors (i.e. no weights would mean that the user preference is absolute).

(G) Claim 10

Appellant argues that "even if a user of Horvitz's system designates a plurality of contact devices in their profile, this does not mean that the system is going to send an alert to more than one of the devices" (Appeal Brief, page 14, lines 26-28). The Examiner respectfully disagrees since Horvitz teaches that "*how an alert should be made is dependent on user preferences as to the underlying information of the an alert (for example, electronic mail, versus a telephone alert, etc.), and also desirably on the priority of the alert*" (column 9, lines 54-58). It would have been obvious for a skilled artisan to designate a plurality of contact devices for the reason that the message can be a highly critical message. Horvitz teaches an example of determining whether to interrupt a meeting via a cell phone or pager (column 13, lines 38-43). It would have been obvious for a skilled artisan to designate as a preference to use both the cell phone and the pager as contact devices when a highly critical message arrives during a meeting. Further, this

is not inconsistent with Horvitz's teaching of centralizing the alert management and using preferences (column 3, lines 2-4).

(H) Claim 12

Appellant argues that "Horvitz is clearly referring to 'audio and/or visual' alerts provided on the computer on which the user is working; not sending a phone call or a fax" (Appeal Brief, page 15, lines 28-39). The Examiner respectfully disagrees since Horvitz teaches "*the system in one embodiment checks to see if the user is around or not at the desktop system before making a decision that the only way to reach the user is to 'render' the notification via the cell phone*" (column 13, lines 43-46). The notification can correspond to a telephone alert of an incoming call (column 2, lines 3-4), wherein notification of an incoming call on a cell phone would have obviously included the phone call if the user responds to the alert.

(I) Claim 13

Appellant argues that "Horvitz does not need to determine what device the user responded on; the system of Horvitz already knows what device the user responded on because it only sent the alert to the user's computer" (Appeal Brief, page 16, lines 23-25). Again, the Appellant's argument is based on the assumption that there is only one contact device in Horvitz. Horvitz does not already know what device the user responded on until it observes the user's response to the previous alert (column 7, lines 18-21), wherein the previous alert can be sent via at least three contact devices --desktop computer, pager or cell phone (column 13, lines 35-46) and success or failure is determined (column 7, lines 23-26).

(J) Claim 14

Appellant argues that "the probability in Horvitz does not even include separate probabilities for separate devices, at least because all alerts are sent to the computer the user is working on" (Appeal Brief, page 17, lines 14-15). Again, the Appellant's argument is based on

the assumption that there is only one contact device. Horvitz teaches a plurality of contact devices which includes sending the alert to a cell phone instead of the desktop computer when the user is not around the desktop (column 13, lines 43-46), and further teaches to increase or decrease the probability based on the user's responses to previous alerts (column 7, lines 16-26). Horvitz's probability refers to one probability or many probabilities (column 6, lines 36-41). It would have been obvious to associate the many probabilities with the particular contact devices since Horvitz must determine whether to use a particular contact device such as a computer, pager or cell phone (column 13, lines 25-46) and to increase the probability based on the user's receptiveness to the alert via the select contact device (column 7, lines 23-26).

(K) Claim 15

Appellant argues that "Horvitz does not teach determining that a success rate is below a failure threshold after a predetermined period of time" (page 17, lines 22-23). Horvitz teaches to observe the user's response to previous alerts (column 7, lines 16-21), wherein "*if the user has not been receptive to alerts in the past, this may decrease the probability*" (column 7, lines 25-26). A skilled artisan would have been motivated to determine whether there is a problem when the user has not responded to any previous alerts after a predetermined period of time (i.e. the probability becomes zero for an extended period of time since the user has not responded to any previous alerts). With respect to querying a user to select a broadcast mode, select a probability mode, or update user preferences, it would have been obvious to present these options to the user for the reason that the broadcast mode is a user preference to use all contact devices for the alerts, the probability mode is a user preference to use Horvitz's probability and preference system, and update user preferences is the option to update information such as changes in phone numbers for the pager or cell phone.

(L) Claim 16

Appellant argues that "Horvitz does not teach determining that a success rate is above a success threshold" (Appeal Brief, page 19, lines 15-16). Horvitz teaches to observe the user's response to previous alerts (column 7, lines 16-21), wherein "*[i]f the user has been receptive to alerts in the past, for example, this may increase the probability 300, while if the user has not been receptive to alerts in the past, this may decrease the probability 300*" (column 7, lines 23-26). A skilled artisan would have been motivated to determine that the success rate is above a success threshold prior to increasing the probability for the reason that using a single response or non-response to an alert to change the probability may result in a wildly fluctuating probability determination based on whether the most recent response to an alert was receptive or non-receptive, and Horvitz appears to suggest using a plurality of responses--"receptive to alerts in the past", in order to determine whether to increase the probability.

With respect to determining a probability for each of a plurality of contact devices based upon past successes, Horvitz teaches determining the probability based on past successes (column 7, lines 23-26), wherein the probability refers to one probability or many probabilities (column 6, lines 36-41). Therefore, it would have been obvious to determine the success of each of the plurality of contact devices since Horvitz teaches to observe the user's responses to previous alerts that can be sent via a desktop computer, pager or cell phone, wherein success in the form of the user being receptive to the specific alert in the past is used to increase the probability (column 7, lines 16-26) or many probabilities that can each be associated with a particular contact device.

(M) Claim 17

Appellant argues that "[t]here is nothing in Horvitz to suggest that contact devices are determined based on a predetermined range; the system of Horvitz is based on either sending or not sending an alert based solely on a probability that the user will want to be disturbed"

(Appeal Brief, page 20, lines 24-27). Horvitz teaches to observe the user's response to previous alerts (column 7, lines 16-21), wherein success in the form of the user being receptive to alerts in the past is used to increase the probability (column 7, lines 23-25). Horvitz also teaches that the probability determination is influenced by the location of a user (column 12, lines 10-23) which includes an office versus offsite location (column 1, lines 56-60). Therefore, it would have been obvious for a skilled artisan to determine a first set of contact devices having a probability of success within a predetermined range such as the user's set of contact devices at their main office in the East Coast of United States having a high probability of success based on the user's receptiveness to the alerts at the main office versus an offsite location such as the user's West Coast office with a lower probability of success using a different set of contact devices--computer, pager and cell phone.

With respect to sending multiple contact signals to contact devices in the first set in parallel, Horvitz provides user preferences in how an alert should be made based on the priority of the alert (column 9, lines 54-58). A skilled artisan would have been motivated to set a preference to receive multiple contact signals for a highly critical priority message--for example, a user may prefer to be interrupted in a meeting by a highly critical priority message by having the alert sent to the cell phone, pager and desktop in the situation in column 13, lines 35-46, rather than face the consequences of missing the message.

With respect to "if no success occurs, determining a next set of contact devices having a probability of success within a next range," Horvitz teaches using the user's schedule to determine whether the user is traveling (column 7, lines 43-48), wherein a user preference in how an alert should be made based on the priority of the alert (column 9, lines 54-58) can be a preference to try a second set of devices at an offsite location with a lower range of probability of success. Appellant argues that "if the first alert is not responded to in Horvitz, that probably

means the user was not amenable to alerts at that time, so sending another alert would actually be contrary to the teachings of Horvitz" (Appeal Brief, page 21, lines 12-14). The Examiner respectfully disagrees in that Horvitz determines the importance of the message (column 15, lines 22-25), observes the user's response to the alert (column 7, lines 18-21), allows the user to set a preference in how an alert should be made based on the underlying information of an alert and its priority (column 9, lines 54-58). Sending another alert is not contrary to the teachings of Horvitz since Horvitz teaches that the user can set a preference in how an alert should be made for priority messages. Important messages are distinguished from junk messages (column 15, lines 22-25 and 32-35). A skilled artisan would have been motivated to set a preference to send another alert to another contact device for a highly critical priority message. For example, a supervisor of a nuclear power plant may prefer to be sent multiple alerts on multiple contact devices until the user has been receptive to the alerts based on a highly critical priority message about the dangerous condition of the nuclear power plant.

(N) Claim 18

Appellant argues that "continuing to send alerts to a user who does not want to be distracted is not within the scope of Horvitz and it is contrary to the teachings of Horvitz" (Appeal Brief, page 21, lines 27-28). The Examiner respectfully disagrees since Horvitz teaches the user can set a preference in how an alert should be made based on the underlying information of the alert and its priority (column 9, lines 54-58), wherein the system observes the user's response to the alerts (column 7, lines 18-21). A skilled artisan would have been motivated to provide a preference to keep repeating the determining and sending process of the alert until a success occurs for the reason that the message can be a highly critical priority message such as the dangerous condition of a nuclear power plant.

(O) Claim 19

Appellant argues that "Horvitz does not teach altering at least one of the predetermined range and the next range depending upon successes" (Appeal Brief, page 22, lines 8-9). This feature is obvious for the reason that Horvitz updates the probability based on success or failure of the alerts (column 7, lines 23-26), wherein the user's current location can be office versus offsite location (column 1, lines 56-58) since the user can be traveling from the office (column 8, lines 23-32). It would have been obvious to associate the various contact devices with their probability of success since Horvitz teaches to observe the user's response to previous alerts (column 7, lines 18-21) and to increase or decease the probability based on whether the user was receptive to alerts in the past (column 7, lines 23-36). A set of devices' probability would have been dependent on their location and the user's current location. For example, a user at the main office would have devices also at the main office with a higher range of success probability than devices at an offsite location. "Altering at least one of the predetermined range and the next range depending upon successes" appears to correspond to a third set of devices having a success probability at a third range lower than the previous two ranges. This would have been an obvious modification where there are multiple offsite locations such as an East Coast office, Midwest office and West Coast office. Horvitz teaches that the user can set the preference as to how an alert should be made based on the underlying information of the alert and its priority (column 9, lines 54-58). A skilled artisan would have been motivated to set a preference to receive a highly critical priority alert at a plurality of devices associated with a plurality of offices, wherein the probabilities of the set of devices would have been at different ranges for the reason that the success of the alerts depends on the user's location. The ranges of the probability of success reflects the amount of time the user spends at the particular location using that location's contact devices.

(P) Claim 26

Appellant argues that "it is not obvious to use multiple attempts in Horvitz because this is contrary to the purpose of Horvitz's system" (Appeal Brief, page 23, lines 6-7). However, Horvitz teaches that the user can set a preference in how an alert should be made based on the underlying information of an alert and its priority. A skilled artisan would have been motivated to set a preference to use multiple attempts for the reason that the artisan may prefer to receive a highly critical priority alert, rather than face the consequences of a missed alert.

Further, Appellant argues that "the system of Horvitz only sends alerts to the computer on which the user is working, not to multiple devices" (Appeal Brief, page 23, lines 11-12). This argument is based on the assumption that there is only one contact device. Horvitz teaches at least three contact devices--computer, pager and cell phone in column 13, lines 35-46. Also, Appellant argues that "Horvitz can accept incoming calls, but it does not forward the calls to the user. Instead it merely sends an alert notifying the user that the call was received" (Appeal Brief, page 23, lines 17-18). In Horvitz, a telephone alerts the user to an incoming call (column 2, lines 3-4), thus it would appear that the rendered notification via the cell phone to a user who is not at their desktop computer (column 13, lines 43-46) would have been an alert of an incoming call, rather than a received call since the user is not at the location of the desktop where the desktop telephone can be located and the call is not received until it is answered or forwarded to a voice mail system. Additionally, a skilled artisan would have been motivated to forward the page message from a pager (column 1, line 65 to column 2, line 3) to the user's pager in the situation in column 13, lines 38-43 for the reason that a notification to the user's pager that they have received a page is more disruptive than receiving the actual page message since only a notification of a received page message at a pager would have required the user to take the time to retrieve the actual page message.

Finally, Appellant argues that "[n]o where in Horvitz does it teach or suggest that one probability is used for one contact device and that another probability is used for another contact device" (Appeal Brief, page 24, lines 1-3). Horvitz teaches in generating the probability to observe the user's response to previous alerts (column 7, lines 16-21), wherein the user's receptiveness to the alerts in the past may increase or decrease the probability (column 7, lines 23-26). In Horvitz, the probability can be one probability or many probabilities (column 6, lines 36-40), wherein the probability can be defined as the probability that the user is receptive to receiving an alert (column 6, lines 32-35). Additionally, Horvitz teaches to treat the different contact devices differently by determining the costs of transmitting the alert to various contact devices --computer, pager and cell phone in column 13, lines 25-43. Therefore, it would have been obvious for a skilled artisan to associate a different probability for each of the plurality of contact devices for the reason that the user responses to the various contact devices can be different. For example, Horvitz may decide to send the alert via the cell phone because the user is observed to rarely respond to pager alerts such that the non-receptiveness of alerts to the pager has decreased the probability associated with sending an alert via a pager versus the probability associated with sending an alert via a cell phone.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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